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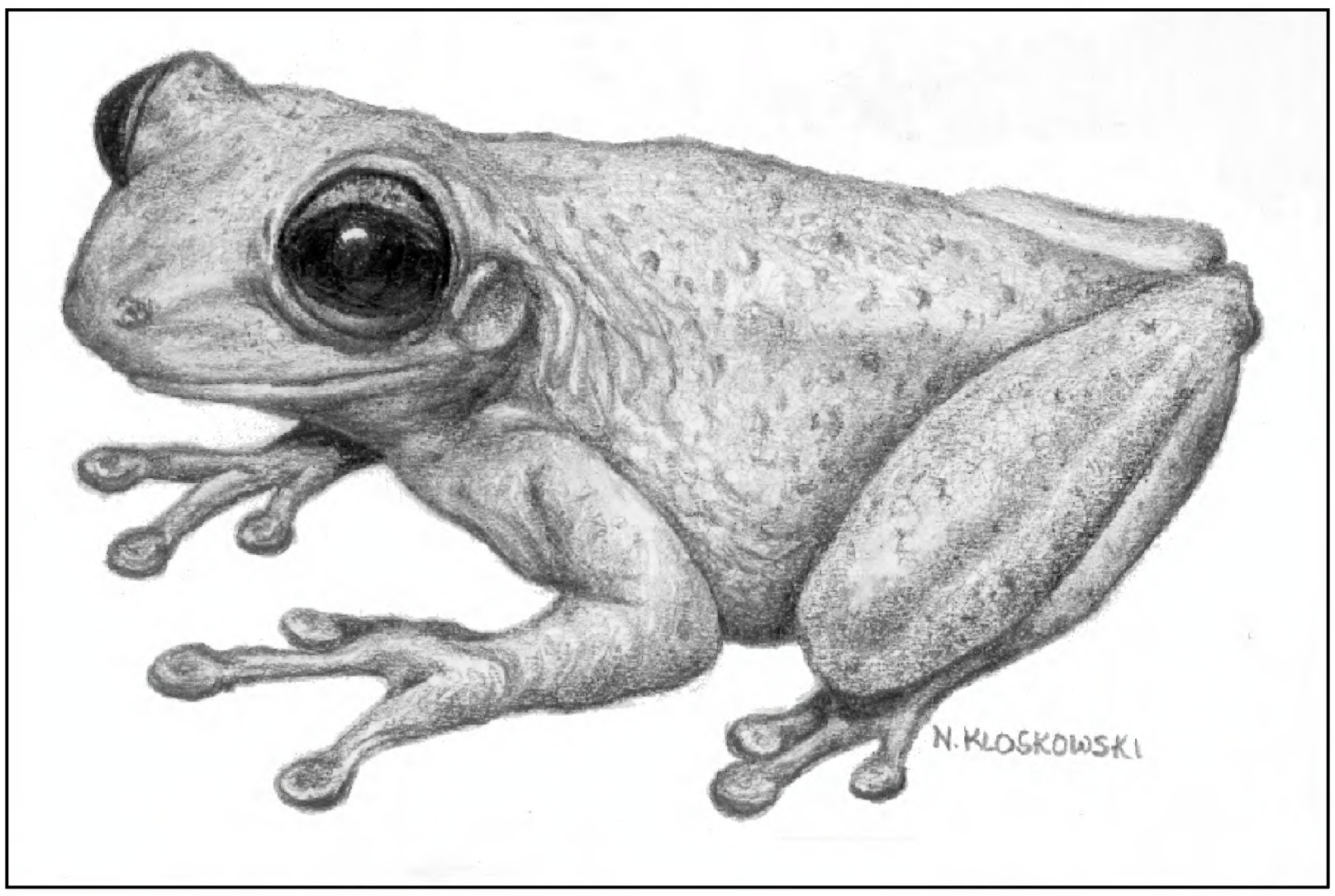

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Clemmys guttata Winter Copulation in Michigan, USA

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The spotted turtle (*Clemmys guttata*) is listed as a Threatened species in Michigan, with population declines previously noted over much of the species' range (Harding, 1997; Lewis and Faulhaber, 1999; Ernst, 2001). This species is a habitat specialist that prefers shallow waters with soft substrates, such as fens, bogs, and sedge marshes—all habitats that have been heavily impacted by human activities over the last several decades. *Clemmys guttata* has been poorly studied in Michigan; however significant studies have been done elsewhere in the northern portions of the range, such as Ontario (Litzgus, 2006), Ohio (Lewis and Ritzenthaler, 1997), and Pennsylvania (Ernst, 1970) and in southern states such as South Carolina (Lovich, 1990) and Florida (Berry and Meylan, 1992). As part of my graduate (M.S.) degree program at Michigan State University, I initiated field research in spring 2007 to investigate seasonal habitat use, movements, and reproductive behavior and biology in a population of *C. guttata* in southwestern Michigan. This paper reports on an observation of winter reproductive activity (mating) in this population; reports on additional findings are forthcoming.

Although mating in *C. guttata* has been reported from March into June, there has apparently been no documentation of mating from the late summer through late winter months. For example, *C. guttata* mating has been observed in Florida in early spring (Berry and Meylan, 1992); in Pennsylvania from March to early May (Ernst, 1970); in South Carolina in the spring (Lovich, 1988); in southeastern Ontario in May and June (Chippindale, 1989); in Maryland in March and April (Nemuras, 1966); and at Georgian Bay, Ontario, in April and May (Litzgus, 1996).

On 12 January 2008, a "January thaw" occurred in southwest Michigan where this *C. guttata* research is ongoing. The snow had entirely melted in the research site, with standing water up to 25.4 cm throughout the habitat and just a glaze of ice in a few areas. The air temperature was 6.9 °C, with clear skies. Temperatures during the previous week were exceptionally warm and above freezing. On 7 January 2008, a high of 16.7 °C was recorded.

The first *C. guttata* observation occurred at 1430 h EST in a ditch filled with 30.5 cm of water (and no ice glaze). This ditch, which runs east and west and is perpendicular to a major highway, receives both highway runoff and overflow from the fen. Using telemetry equipment earlier in the season, the ditch had been identified as a hibernaculum for *C. guttata*. The first turtle, a male (carapace length [CL] = 8.9 cm), was observed just below the water surface, and this led to finding three additional *C. guttata* specimens, as described below.

Ten minutes later, a second male turtle (CL = 10.1 cm) was sighted approximately 0.3–0.6 m from the first one. This turtle was motionless beneath the water. Upon grasping this second male and taking it out of the water, I found that it had mounted and attached itself to a female *C. guttata* (CL = 9.9 cm). The two turtles were copulating, with the male's penis fully inserted into the female's cloaca. The copulation continued for twenty minutes (1440–1500 h EST). The male and female were just below the water surface with a 3.0 °C surface water temperature recorded.

At 1530 h EST, a third male (CL = 9.4 cm) was observed in the same ditch, approximately 18 m from the other three turtles. The turtle was in 30.5 cm of water, 15.2 cm below the surface. The water temperature was 4.1 °C at the surface. The carapace surface temperature was recorded at 5.5 °C using a Temp Gun (Pro Exotics).

Discussion

Clemmys guttata is known to be a relatively cold-tolerant species that emerges from hibernation earlier in the spring than most turtle species (Ernst et al., 1994). Since the report above was an isolated incident, I attempted to discover whether other spotted turtle researchers had unpublished data on winter mating occurrences in this turtle.

Dr. Jeffrey Lovich (pers. com.) had not observed mating activity in *C. guttata* earlier than March. Dr. Carl Ernst (pers. com.) knew of no published or unpublished observation of mid-winter mating in spotted turtles. He noted that he long believed that spotted turtles and other emydids would likely mate early in the year if environmental conditions allow them to be active. The male spermatic cycle is usually complete by the end of August in *Clemmys guttata* (Ernst et al., 1994), so the males have mature sperm in their vas deferens as they enter winter dormancy. As for the females, spotted turtles probably store sperm as do many other turtles, and eggs can be fertilized when they are ovulated in May. Ernst also noted having seen spotted turtles coupled together under ice in waters less than 3 °C in March.

It is possible that winter mating as noted here is due to certain intersecting circumstances such as close proximity, unusually mild weather, and the species' known ability to function at cooler temperatures. It also seems possible that opportunistic winter mating may not be rare, but simply underreported; perhaps few researchers spend time in their study sites in winter, when turtles are presumed to be dormant and field conditions are harsh. Monitoring study sites in winter months may reveal additional unsuspected aspects of turtle behavior.

Acknowledgments

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Lovich and Carl Ernst for their personal input regarding this topic. In conducting this research, I have complied with all applicable institutional Animal Care guidelines at Michigan State University and obtained required permits from the Michigan Department of Natural Resources.

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Note on Reproduction of the Northern Cat-eyed Snake, *Leptodeira septentrionalis* (Serpentes: Colubridae) from Costa Rica

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Abstract

Gonadal material from the northern cat-eyed snake, *Leptodeira septentrionalis*, from Costa Rica was histologically examined. Spermiogenesis (= sperm formation) was the only stage present in the testicular cycle in males examined from February, March, June, July, August, September and December. Extended periods of sperm production are common in snakes from Costa Rica. Females with oviductal eggs were found in both March and August. My finding of one female with seven enlarging follicles is a new maximum clutch size for *L. septentrionalis* in Costa Rica.

The northern cat-eyed snake, *Leptodeira septentrionalis*, is known from extreme southern Texas through Mexico and Central America to northern Colombia; in Central America it is a very common diurnal snake (Savage, 2002). Information on reproduction of *L. septentrionalis* is in Duellman (1958), Behler and King (1979), Solórzano (2004). This note presents the first information on the testicular cycle of *L. septentrionalis* plus seasonal information on the ovarian cycle. Information on the reproductive biology is an integral part of the natural history of an organism.

A sample of 34 specimens of *L. septentrionalis* from Costa Rica (males n = 17, mean snout–vent length [SVL] = 455.8 mm ± 52 *SD,* range = 323–553 mm; females n = 15, SVL = 511.6 mm ± 68 *SD,* range = 405–617 mm; presumed neonates, SVL = 161.5 mm ± 3.5 *SD*, range = 159–164 mm) was examined from the herpetology collection of the Natural History Museum of Los Angeles County (LACM), Los Angeles, California: Guanacaste (LACM 151789); Heredia (LACM 151790-151792, 151795, 151796, 151801, 151809); Limón (LACM 131223, 151783, 151785, 151802, 151803, 151805, 151810, 151815); Puntarenas (LACM 114135-114137, 151780, 151784, 151787, 151788, 151794, 151798-151800, 151812-151814, 151816, 151817, 151832); Province not known (LACM 2555).

Snakes were collected 1935–1985. The left testis was removed from males and the left ovary was removed from females for histological examination. Counts were made of enlarged ovarian follicles (> 8 mm length). Tissues were embedded in paraffin and sectioned at 5 μm. Slides were stained with Harris' hematoxylin followed by eosin counterstain. Histological slides were examined to determine the stage of the testicular cycle and for the presence of yolk deposition. An unpaired t-test was used to compare mean body sizes of male and female samples (Instat vers, 3,0b, Graphpad Software, San Diego, CA).

The mean size of the male sample was significantly larger than that of the female sample (t = 2.64, df = 30, P = 0.13). Spermiogenesis (= sperm formation) was the only stage present in the testicular cycle. In spermiogenesis, the seminiferous tubules are lined by spermatozoa and rows of metamorphosing spermatids. Males undergoing spermiogenesis were found in the following months: February (n = 2), March (1), June (6), July (3), August (2), September (2), December (1). The smallest spermiogenic male measured 323 mm SVL (LACM 151816) and was from February.

Monthly changes in the ovarian cycle are in Table 1. Females with oviductal eggs were found in two widely separated months (March and August). Enlarged ovarian follicles were also found in August. One female each from July and August contained corpora lutea but no eggs indicating a clutch had recently been deposited. Mean clutch size for 3 females was 5.33 ± 1.5 *SD*, range = 4–7. The smallest reproductively active female, from March, measured 465 mm SVL (LACM 151787). Two presumed neonates, SVL = 159 mm, total length = 208 mm (LACM 151832), SVL = 164 mm, total length = 215 mm (LACM 114137) were collected in October and May, respectively.

It appears *L. septentrionalis* has an extended reproductive cycle, as all males exhibited spermiogenesis in the seven months from which samples were available. Extended periods of sperm production are common in snakes from Costa Rica (Goldberg, 2003a, b; 2004a, b, c; 2006a, b; 2007a, b, c, d; 2008). The congeners *Leptodeira maculata* and *L. punctata* from Mexico also appeared to have extended reproductive cycles (Goldberg, 2004d). My finding of one female with seven enlarging ovarian follicles (> 8 mm) is a new maximum clutch size for *L. septentrionalis* in Costa Rica. The previous maximum clutch size for

Table 1. Monthly changes in the ovarian cycle of 15 *Leptodeira septentrionalis* from Costa Rica.

Month	*n*	No yolk deposition	Early yolk deposition	Enlarged follicles > 8 mm	Oviductal eggs
February	2	2	0	0	0
March	2	1	0	0	1
April	1	1	0	0	0
June	3	3	0	0	0
July	4	4*	0	0	0
August	3	1*	0	1	1

* = corpus luteum present in one female from each month.

L. septentrionalis in Costa Rica was four (Solórzano, 2004). With over 200 species of snakes belonging to 65 genera known to occur in Costa Rica (Solórzano, 2004) much work needs to be done before the diversity of reproductive cycles exhibited in snakes from Costa Rica can be ascertained.

Acknowledgments

I thank Christine Thacker (LACM) for permission to examine lizards. Sean Kark (Whittier College) prepared the histology slides.

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Book Review: *The Lizard King, The True Crimes and Passions of the World's Greatest Reptile Smugglers* by Bryan Christy. 2008. Twelve, New York and Boston. ISBN-13: 978-0-446-58095-3. Hardcover. $24.99*

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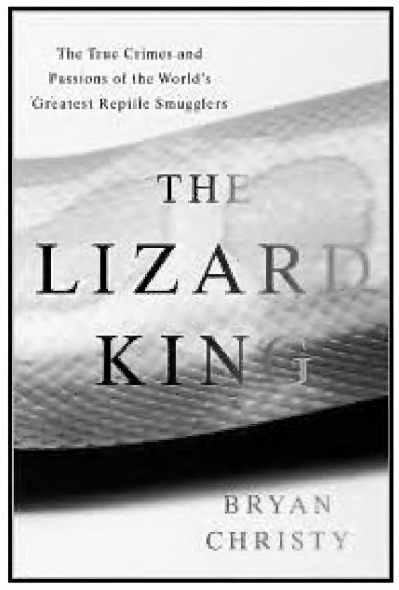
It is a little eerie to read a book set with the very characters that played roles in our own herp careers, seeming to us almost a personal memoir of our long tenure working with herps. But this is a captivating tale for all readers.



We have to admit that we first felt a certain hesitance to read this book. When it was released and we saw the title on book lists, we weren't sure what to expect. We confess our first thoughts were on the order of "Oh great, another animal rights manifesto" and we assumed this to be some diatribe accusing the pet industry and reptile pet owners of endangering their animals, the environment, and the public at large.

Well, this is not that book. This book is the story of how Mike Van Nostrand and his family business, Strictly Reptiles, got into the business of smuggling reptiles, and how they got out. This is the story of how Chip Bepler, a U.S. Fish & Wildlife Special Agent, took as a personal mission to expose and arrest Van Nostrand, a quest that would take years and hundreds of thousands of dollars.

We enjoyed the book. It would make a darn good movie. Christy did an excellent job describing the recent history of the animal business, identifying many of the major players and the roles they played. He sets the stage and effectively creates the atmosphere of the Florida animal import business of the past 25 years or so.

The story reaches back to the 1950s, beginning with the childhood of Mike Van Nostrand's father, known to many as "Big Ray." There lies a fascinating tale of the evolution of a boy who loved herps. Ray had a natural ability as a businessman and Christy sets the tone of the entire book with the history of how Ray got into the animal business, and ended up in Florida. When Big Ray went to jail in 1987 (and not for anything to do with the animal business), Mike was pulled from his career as an accountant into maintaining his father's reptile business. This was the beginning of Strictly Reptiles, soon to become one of the largest reptile businesses in the world.

In telling the story, Christy shares with the reader several interesting digressions. These are the tales of modern herpetoculture, the fables that herpers hear as they are initiated into the culture of snake keepers. Ranging from Karl Schmidt's death from a boomslang bite to the history of the albino Burmese python phenomenon, Christy uses these stories to illustrate the intense feelings of keepers towards their animals. The author does effectively portray the intensity of the interest of an entire community of animal people toward snakes and other reptiles. A character in the book refers to the attraction that herpers feel for their animals as "the shine."

It is a fact that all animals have value—hence, to possess any animal is to participate in the live animal trade and its inherent commercialism. In keeping with the story line, there is an emphasis of the illegal aspects of the reptile trade, where profits and thrill entice a few to cross the line into the dark side. In reality this is a very small part of a much bigger picture; keepers, fanciers and hobbyists who legitimately participate in the reptile trade in the USA number in the millions.

In our view, the larger "animal business" as described in the story is the manifestation of a frustrated desire of a worldwide civilization increasingly removed from nature, yet eager to associate with and know animals of all sorts. The live animal trade exists to supply that yearning and, yes, there may be crass and even evil people on the margins. However, the live animal trade is not some fundamentally evil activity.

In several places in the book, Christy cites the opinions of agents and investigators who believe that the business of live reptile smuggling is widespread and immense. We feel these loaded statements are intended to create a bias supporting the actions of enforcement. If, as is stated in this book, smuggling accounted for only a small percentage of the business of Strictly Reptiles with its annual total gross of a few millions, and if Strictly Reptiles was the biggest and baddest of all the reptile businesses—just how big could it be? Reptile smuggling is immense compared to what? The international oil trade? The international narcotics trade? Smuggling prescription drugs out of Canada?

In the international animal trade, legal and illegal, we point out that by every estimate we have ever seen published, the illegal animal trade is but a fraction of legal trade. Further, the legal "live animal trade" is a minuscule fraction of the legal "dead animal trade" that deals in hides, feathers, tusks, folk medicine, bush meat, and animal parts.

The story portrays Chip Bepler, a U.S. Fish & Wildlife Special Agent, as the protagonist. It's written on the book jacket inside flap that this is a story of "one man's noble and monomaniacal quest for justice." We couldn't disagree more. We see nothing noble in the obsessive persecution of one individual or one business at the expense of hundreds of thousands of taxpayer dollars by a "monomaniacal" government agent. There was nothing noble about the deaths of the hundreds the animals that were confiscated as evidence in this story and as

has happened in many other similar stories not yet written. We see nothing noble in raids of animal businesses by SWAT teams armed for busting crack houses and battling drug lords, not confiscating lizards and computers.

Our memories of this period of herpetocultural history include illegal subpoenas served to zoo curators, and exaggerated and unfounded news releases from the prosecutor's office in the case of *U.S. vs Molt*, better known as the Philadelphia Inquisition. The failed Atlanta Wildlife Exchange sting distinguished itself with many charges of illegal entrapment, and by buying and then selling protected species of wildlife, often illegally shipping them through the mail. Christy mentions both as earlier attempts by enforcement to regulate the animal business, setting the stage for the tale of Van Nostrand and Bepler.

There is a chapter devoted to describing the undercover operation undertaken by U.S. Fish & Wildlife Agent George Morrison, a.k.a. multimillionaire reptile collector "Karl Hart." Initially the goal was to trap Mike Van Nostrand, but failing that, Morrison set his sights on busting Anson Wong, a notorious Malaysian businessman who dealt in all kinds of animals and animal products. After purchasing and smuggling some $371,000 worth of rare and endangered species, including Komodo dragons and ploughshare tortoises, this enterprising agent did manage to arrange the arrest of Wong. After three years of investigation and several years of litigation at the taxpayers' cost, Wong was sentenced to four years in prison. Perhaps Christy should have taken the opportunity to question the correctness of the actions of this operation—is it admirable or right to become the world's largest smuggling customer in order to catch the world's largest animal smuggler? Does this ploy, learned from drug enforcement agencies, lend itself to the animal business? What happened to those $371,000 worth of animals?

We do not see this as a story of good versus evil. Rather it is the tale of agents and dealers, collectors and importers, undercover stings and enforcement scams, all operating in a great, gray, misty hinterland of poorly written, often ambiguous, poorly understood, often conflicting and seldom enforced legislation and regulation. Back in the 1970s and 1980s, when this story begins to take form, many wildlife laws such as the U.S. Endangered Species Act and CITES were relatively new and not entirely comprehended. The Lacey Act had never been applied to the reptile trade. Ignorance of the law is no excuse, but many in the reptile world simply didn't recognize that a new era of laws and law enforcement had arrived—it was no longer business as usual. Christy is a law school graduate and worked as a lawyer before deciding to undertake a career as a writer. Here his legal training serves the story and the reader well, for he does an admirable job in identifying and generalizing many of the national and international laws that are mentioned throughout the unwinding of this tale.

Consider two young men, both with an interest in reptiles; one goes on to become a lawyer and a writer, the other a reptile importer and smuggler. The difference is in the environments into which they were born. The culture of the South Florida herp world in the 1970s through the '90s, and the family culture of the three generations of Van Nostrands, pirates in a modern era, put Mike Van Nostrand on his collision course with Chip Bepler. Our intended point is that Mike's actions were not due to some flaw shared by all reptile people. The lives of most "reptile addicts" are not on the trajectory described by Christy as "bigger, meaner, rarer, hot."

Christy does show the humanity, if you will, the normalcy of the major players throughout the text. He does not paint them as heroes or villains and ably illustrates their motivations and actions. Even though we have known many of these people for many years, we feel that now we might know each of them just a little better. We never knew Chip Bepler, a dedicated Special Agent of U.S. Fish & Wildlife. He worked hard and he was honored for his work and his career. After successfully bringing an indictment against Mike and Strictly Reptiles, Bepler proved to be a class act, a generous and understanding man. There is no doubt that he believed in his mission.

In reading through the manuscript several times, we found few errors. One that glittered was a reference to a certain book written by Karl Kauffeld. It was identified in the text as *Snakes: The Keeper and the Kept* (published in 1969) when, in fact, if young Ray Van Nostrand read it in 1958, the correct reference should be *Snakes and Snake Hunting*, released in 1957.

We did find several descriptions of reptile people and the reptile business to which we cannot help but take offense. For example, Christy describes the animal business as "the lint screen for human vices." He goes on to write that anyone in the animal business will tell you that the worst in the business are "the reptile guys." We take great offense at this extraordinarily derogatory remark, and we can say with certainty that this great generalization is patently false. Such a caustic aspersion does nothing positive for the reputation of the millions of respectable herpers around the country, all participants in the animal trade. This unfounded, offhanded statement is so very damaging to the collective reptile community when read by some casual reader who knows nothing and cares little about herpetoculture, someone who may be holding this book in his or her hand because of the many favorable reviews and recommendations it has enjoyed.

We, too, will recommend this book. For us it is a living history, a snapshot of a particular era that is largely over and gone. It is a genuine taste of the flavor of those times. But we caution that this book treats the live reptile trade, and, by association, all the keepers of reptiles, in a less than evenhanded manner. This is a very entertaining read, but it is not particularly friendly to herpetoculture.

Bull. Chicago Herp. Soc. 43(11):179-181, 2008

Book Review: *The Lives of Captive Reptiles* by Hans-Günter Petzold (translated by Lucian Heichler and edited by James B. Murphy). 2008. Society for the Study of Amphibians and Reptiles. ISBN-13: 978-0916984731. Hardcover $55.00

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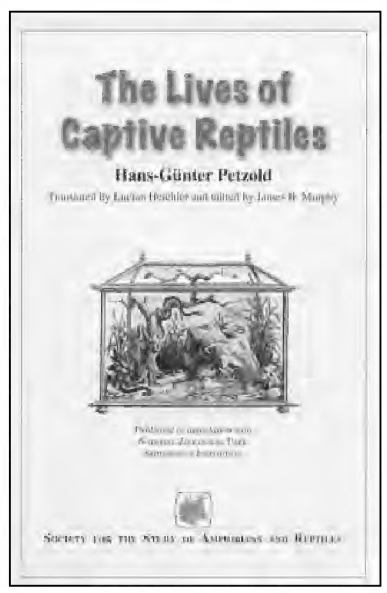

Specifications (from back cover text): 308 pages, 63 photographs (57 in color). Preceding the text of the book: Editor's Note / Contributions to Herpetology, Volume 22 / Contents / Introduction to the Original Edition (by H. Dathe) / Dedication / Foreword to the English Edition / Introduction to the English Edition (Lucian Heichler and James B. Murphy) / Color photographs (2 to 6 per page) from the herpetological collection in Tierpark Berlin / Hand colored antiquarian illustration on cover by David M. Dennis. All of the foregoing occupies 30 pages plus 7 pages of socio-political justification, a virtual requirement by the German Democratic Government at that time consisting of his Four Principal Tasks in modern zoo biology in the Socialist State. Petzold's text begins with a very interesting and thorough history of herp keeping.

This book was originally published in *Milu*, the official journal of Tierpark Berlin, volume 5, numbers 4-5, 1982. A sizable expansion of this article was published in book form two years later (1984) as Berliner Tierpark Buch number 38. This English translation was published in March 2008, more than two decades after Dr. Petzold's death.

Contents include: (1) Introduction (including Petzold's four principal tasks)—7 pages; (2) Brief historical description of keeping amphibians and reptiles and related initial scientific discoveries—9 pages; (3) Observations and experiments (including results and problems) presented through selected functional systems—177 pages; (4) Brief suggestions for observations of reptilian behavior from other functional systems—6 pages; (5) Relevance of terrarium data for herpetological questions—10 pages ; (6) Species conservation programs—19 pages; (7) Final remarks—3 pages; (8) Literature—37 pages; (9) Index to scientific names—7 pages. The photos are clustered (I would have preferred several to have been one to a page) but nearly every picture is exceptionally clear and well reproduced. Inexplicably there is a blank page following the illustrations that could have been used to spread the number of images across an eighth page which would have helped to lessen the impression of photo cramming. Page stock is heavier than in most books this size and the print is a bit small for reading comfort.

Altogether I made 71 notations (pro and con) throughout my read, excluding the bibliography and index pages which I did not review. Although the frequent editorial inserts scattered through the text (ending in exclamation points!) are intended to clarify, they are just as often an annoying distraction.

Dr. Petzold, late curator of Reptiles and Deputy Director of Tierpark Berlin, was an exceptionally talented herpetologist who authored about 350 papers and five books during his career.

It is important to elaborate on Petzold's mentor, Prof. Dr. Heinrich Dathe, the first Director of the spacious Tierpark Berlin (zoo) which opened in East Berlin in 1955. He was a modest man who ultimately ranked as one of the most capable zoo directors anywhere. Despite the enormous constraints of the East German communist governing system, he assembled a world class zoological park that became famous for its many important breeding programs across all the vertebrate classes. He was loved and highly respected (and even envied!) by zoo professionals globally. When Germany reunified Prof. Dr. Dathe was "retired" to relative obscurity, a casualty of being on the losing side of the new German regime. Dr. Petzold acknowledges in his book Dathe's keen and unrelenting support for his, Petzold's, own supreme effort.

When I first heard the title of this book my impression was that the book would be a summary of reptile and amphibian management strategies, grounded in Petzold's own experiences during his career at Tierpark Berlin (now Tierpark-Friedrichsfelde). This is not the case. Rather, this book seeks to underscore the myriad global published contributions to herpetology based on discoveries and observations in living herp collections. References were carefully selected by Petzold (37 pages!) all in support of his exhaustive review, largely of herpetological reproductive biology, followed by information on ontogenetic development, ethology, nutrition and conservation. His synthesis of available literature was obviously a strategy to underscore his message to other professionals in the field to (a) push forward on research questions that need to be addressed and (b) redouble their efforts to maintain healthy populations of reptiles (and amphibians) globally both in captivity and in natural habitats. Unlike other herpetologists who may be critical of the role of terrarists and the private sector, Petzold includes them all. No doubt, had he been able to enjoy a longer life (he died in 1982 of an acute heart malady at age 51) there would have been many more references added to this already impressive bibliography (e.g., Arnold, Kauffeld, others).

Beginning with his introduction, his thoughtful justification for zoos within the socialist system is now a moot issue. Nevertheless, this segment is a very interesting read. His "four principles" present a rationale for maintaining living collections that is every bit as current now as it was then.

His "brief" historical description of the keeping of amphibians and reptiles, and initial scientific discoveries is fascinating

(and not brief), providing valuable, interesting insights back to the 3rd millennium BC.

The main thrust of the book is reproductive biology focusing mainly on reptiles with some of the more remarkable amphibian examples included. In the remaining chapters (about 40 pages) he skillfully escorts the reader to his "Final Remarks" as he appeals for more studies and greater recognition of the important ecological roles of the lower amniotes (reptiles) in the greater global context. In his closing chapter, Petzold chooses to present his case with optimism as he admonishes his audience of professionals to redouble their efforts in protecting, through a range of species-specific strategies, the reptile fauna of the globe. His views reflect a noble commitment based on his pragmatic and exhaustive review of the literature available at that time. This chapter could justifiably have been placed at the beginning of the book as it serves equally well as an introduction as a conclusion. In fact, I would suggest that the reader skip to the end of the book and read this chapter as a first step.

Fundamentally the translation effort is laudable. There are a very few specific choices in wording that fall short; three examples follow: On page 32 the term "chirping" is used to describe sounds that emanate from an undulating tail of a *Teratoscincus* gecko. To those who have heard it, this sound is in fact a very faint hissing. On page 157 reference is made to the cornea of the eye being shed along with the discarded skin. The word "spectacle" should have been used in place of "cornea." The cornea, a part of the surface of the eye itself, is not shed as a part of the ecdysis event. On page 178 there is the wording: ". . . skin flap on top of the head of Mata Mata . . ." This no doubt refers to the twin flexible lateral flaps that quite likely serve as stabilizers during a strike. These are located on both sides of the head, not on top.

The read is not light! It is comparatively heavy and in some instances laborious, particularly where he attempts to make clarifications. Sentences may be long but the examples and messages are very helpful and insightful.

Timing is everything and this book, unfortunately, suffers seriously from the 25-year hiatus since its first printing in the Milu. Had its translation into English been achieved with expediency the significance of this work would have been far more useful both in message content and as a reference among the English-speaking herpetological readership. Much has transpired in the last quarter century which renders numerous pages of information out of date and little value. For example, Petzold's argument in support of the sperm retention theory (*amphigonia retardata*) to explain delayed egg fertilization in snakes occupies 11 pages. He acknowledges (grudgingly, it seems) the role of parthenogenesis in certain lizards and in the Brahminy snake and he is baffled by Magnusson's article regarding his observations on the obvious gravid state of a Java Wart Snake (*Acrochordus javanicus*) that died in 1978, seven years after its capture and isolation. Much of his lengthy rationale for sperm retention in female reptiles would have no doubt undergone a major rewrite had he lived to see an article (Dubach et al., 1997) confirming parthenogenesis in another kind of *Acrochordus* (*A. arafurae*). This snake and her offspring resided in Brookfield Zoo and their DNA were examined by Dr. Jean Dubach, geneticist at Brookfield Zoo's Genetics Lab: parthenogenesis confirmed. Other articles on the topic began to appear at that time as well.

Petzold comments frequently on the frustrations of trying to understand reptilian management needs. While he does not comment directly on the total lack of any reptilian domestic model to draw from (this phenomenon is singular in reptiles and amphibians among the vertebrate classes), this fact is often echoed when he uses mammalian or avian contexts for comparison.

Petzold obviously sees ethology (and ethograms) as the proper basis for study of herpetological behavior. Ethology certainly has and does play an indispensable role in assessing certain behavioral patterns. However, even the most primitive of amphibians and reptiles will show enough individual behavioral variation that narrative behavioral studies are equally important. Herp behaviors tend to be anything but rigid and exceptions to the rule tend to be the rule (and not the exception!) in most species.

The author frequently sets up rules as he reduces broad topics to subset categories in an effort to provide some standardization in communication between zoo herpetology and the rest of the herpetological world. Often this technique works but at times these become cumbersome. Examples include his attempt to identify stages of food ingestion by predatory reptiles, breeding behavioral stages, and more. Facetiously put, this is the kind of material that the animal also needs to read so that the herpetologist and the herps have a common understanding about various pertinent issues! The inflexibility and rigidity of the ethological approach is often out of place in this very soft science, and his attempt to "force a fit" is sometimes apparent.

Petzold also will challenge a behavioral description. For example, the term "combat dance," the ritualized dominance behavior of rattlesnakes and other species should, in his opinion, be called "tournament behavior." This is based on the fact that few, if any injuries are sustained by the adversaries, which contradicts the term "combat." His emphasis on defining of terms is unusual among authors and very helpful in keeping him and his reader "on the same page" (pun intended).

Petzold tends to prioritize factors that affect herpetological management. For example, he ranks temperature considerations as #1 and other needs such as humidity in a descending order of importance. In fact, many of us have learned that both are of equal priority and in some species humidity requirements may take precedence over the preferred thermal range (natricines, etc.). At times, such as during periods of ecdysis, humidity needs can overshadow thermal considerations among many species.

The chapter (3.1.11) on hybridization, parthenogenesis and inherited characteristics suffers from being 25 years out of date. Bechtel's work on albinism and other color morphs was yet to come and recent advancements in the commercial sector concerning selective breeding for color and pattern has rendered the fine points of this chapter quite out of date. In keeping with endangered species and threatened population dynamics he emphasizes the maintaining of the purity of races where possi-

ble. His chapter on coloration and markings is disappointingly brief (1 page).

While Petzold commits considerable space to longevities of many species of reptiles and some amphibians, he rightfully implies that comparative lengths of herp life spans should only serve as an indicator of the quality of care (or lack thereof) that the animals have received in captivity, and should not be considered as ends in themselves.

There are some distractions. In his chapter on nutrition and feeding behavior he also discusses water uptake in terms of "sucking drinking." He offered no reference that demonstrates water uptake being caused by a lowered atmospheric pressure within the oral cavity in order to draw water uphill (i.e., sucking). There may be other possibilities such as elaborations on simple capillary and meniscus action.

He also devotes over a page to the phenomena of "sleep" and "yawning." Aside from the fact that these were, and perhaps continue to be, of particular interest in the Soviet scientific world, his discussion of these topics is particularly insightful.

Petzold points up the value for endangered or threatened species to "pay their way" when appropriate. He recognizes the irrefutable advantage to meaningful species management strategies when principles of carefully controlled commercialization are available. Crocodiles and alligators being farmed for their hides are given as one example. Those species without a commercial support component are, in his view, at greater risk.

In his "Final Remarks" Petzold identifies obstacles that must be overcome to insure a greater chance for survival of endangered and threatened species. Many of his points are critical and applicable today, 25+ years later.

In spite of some of his messages being inevitably outdated, Petzold's volume is of particular value in its broad bibliography. In addition, his treatment of reproductive behavior and physiology, at least as of 1982, is thorough. Additional topics of nutrition, behavior, and data gathering are refreshing in their myriad details all of which come together to support his admonishment and plea to advance the frontiers of herpetological science. I am glad I read it, although I doubt that I would read it again. However, as a compendium bibliography it has a rightful place in any herpetological library. It is a genuine pity that he did not live to expand his efforts into additional components of herpetology including such unexplained areas as the complex and sophisticated lymphatic systems that exist in reptiles, or identifying environmental factors that contribute to dramatic differences in growth curves among young Galapagos tortoises, and others.

Buy the book! Although every reader will garner their own impressions on the message contents of the book, there is real value in the many examples of Petzold's meticulous message delivery style as well.

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Bull. Chicago Herp. Soc. 43(11):182-184, 2008

What You Missed at the October CHS Meeting

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I sometimes think I should change the title of this column to "What I Screwed Up This Month," which might make it more interesting but would be way too long. Besides, a sensitive guy like me would soon break down under the snickering. I managed to get behind on the organization of the board election, and because of that I don't think that this year's elections offer everybody the opportunity that they should. I know that few of you wish to be elected to the board, but I firmly believe that everyone who wants to run for the board should have an equal shot at serving. November is our election meeting, and if you have not already been nominated, show up at the meeting and get nominated. You won't be on the paper ballot, but you'll still have a chance to run, and maybe you can replace that incompetent president we have. I'm sorry, and next year will be better. If you don't want to be on the board, show up at the meeting to vote and listen to Mike Redmer speak about current and looming issues in Illinois herp conservation. That's a subject that all of us should be involved in and Mike is a first class speaker. Don't miss it.

The business part of October's meeting went fast, and Josh the Raffle Man set a new speed record for the raffle, all in an attempt to allow our speakers some extra time for their talk. That's not a typo. We had two speakers for the October meeting. In the midst of my trying to remember what I needed to say because I'd left the meeting agenda at home, Mike Dloogatch asked me if I wanted to meet our speakers. I looked up and found myself staring at two large, long-haired, bushy-bearded, overall-clad, muscle-men. They looked like a World Wrestling Federation duo called the Mountain Men, and for a second I was a little intimidated. When one is follicularly challenged, underdeveloped, and unable to grow a beard that looks like anything other than dirt on one's face, one tends to be intimidated by large men covered with lots of hair and flexing their biceps.

As usual, my first impressions turned out to be wrong, and two of the nicest people you'd want to meet, dressed in their standard snake hunting garb, gave an hour-and-a-half presentation in a tag-team approach that rivaled professional news anchors. Will Bird and Phil Peak have been together for a long time, and it showed in the way that they seamlessly supported, filled in, and occasionally bailed each other out as they talked about Finding Snakes. I suspect that their dress and the fact that Will was drinking out of a mason jar was also a little bit of theater for us city folk. Neither one of these guys seems above some gentle leg pulling.

Will Bird Phil Peak
Photographs by Bill Peterson

Ten years ago the two met when they founded the Kentucky Herpetological Society, and since then they have traded off being president and vice-president of that organization, along the way building a reputation for integrity and discipline that led them to positions as expert reviewers of reptiles and amphibians on Kentucky's Comprehensive Wildlife Conservation Strategy. Check out the Kentucky Herpetological Society's web site at Kyherpsoc.org. They're both herpetoculturists, great photographers, and well known and well regarded as field herpers, which is what they talked about. They have published a book on field herping, *A Snake Hunting Guide*, well written and full of valuable tips even if you've been herping for a while. Buy it from the KHS web site. They were nice enough to bring a few books and autographed them for those of us who asked. They're also part time philosophers, as became evident as their talk progressed.

They opened with a thank-you to Kentucky's state herpetologist, John MacGregor. What a concept, a state department of natural resources that takes reptiles and amphibians seriously enough to have a state herpetologist! Illinois can't even keep state parks open. Check out the CHS forum [chicagoherp.org/forum] for more on that subject.

OK, I'll try to stay on topic. Will and Phil flashed a slide on the screen that showed the importance of recording what you find. If my math is correct, they are responsible for nearly ten percent of the 90,000 entries in the official Kentucky herp database. That's a pretty impressive feat. They encouraged herpers to take extensive notes of every find, building a database that may be used by others as well as a means to distinguish trends and improve field skills.

As a NO TRESPASSING sign filled the screen, Phil and Will talked about how this may be an opportunity. By approaching the landowner with the proper attitude, they've often gained access to sites that otherwise would go unexplored. They've also been shot at, but apparently never wounded. At least they didn't mention any wounds. Pyrotechnics seem not to deter them, since they've been shot at more than once. I did mention that they are dedicated, didn't I? This led to some lessons in field herping manners. Be careful that you don't wear offensive clothing, T-shirts with sport team logos that may be offensive (a picture of Phil in a Louisville Cardinals shirt) or pictures of rock bands that may not be appreciated by the landowner. Watch your language and respect the homeowners' views even if they don't agree with yours. Remember that you're trying to

Kentucky has some gorgeous scenery, but Will Bird and Phil Peak say that the scene on the right is more apt to yield herps.

Field herpers are probably the only segment of the population whose hearts beat faster at a scene like this.

A ringneck snake (*Diadophis punctatus*), the snake most commonly found by Phil and Will in Kentucky, but still a favorite of theirs.

One of the duo's finds, a black kingsnake (*Lampropeltis getula nigra*), being measured at the Louisville Zoo, where Will is a keeper. The snake was a record length.

be a guest on their land. Having herped in some areas of the country that are very rural and very poor, and having been met with a shotgun on occasion, I really appreciated Phil and Will's philosophy on dealing with homeowners. Their views could be summed up as treating everyone with respect, recognizing that landowners will probably have different views about snakes and herps, and listening to their side while politely explaining yours. I can say from personal experience that this approach will allow you access to areas you wouldn't otherwise have.

The presentation was filled with gorgeous Kentucky habitat, from rolling mist-shrouded hills to inundated cypress swamps, and pictures of specific herping sites, which mostly consisted of burned-out trailers and crumbling outbuildings. They went in to some detail about actually preparing sites by laying out artificial cover (AC). They stressed that big pieces of AC yield big snakes, that AC should be of many types, and AC should be placed in proper orientation so that it has a mix of sun and shade. They also talked about trapping, a technique that allows them to capture species they may not find under artificial cover.

To illustrate their idea of road cruising they showed a picture of a truck buried in tall, dense grass. They feel that, in Kentucky at least, cruising doesn't yield enough results to justify the time. Their road cruising consists of driving from one site to another. They also showed a picture of their truck buried up to the axles in mud to stress the necessity of being prepared for every contingency, especially since you may be far from help. Have a good spare tire, a jack, even blankets and crackers in case you have to spend a night out. To them being stuck in an out-of-the-way place means that you have less time to herp.

They talked about useful field tools, and while they carry tongs and stump rippers, they claim they would never be without a potato rake. Good maps are a must, with DeLorme being the standard. Will showed a picture of Phil photographing a timber rattlesnake, pointing out how far away he was from the

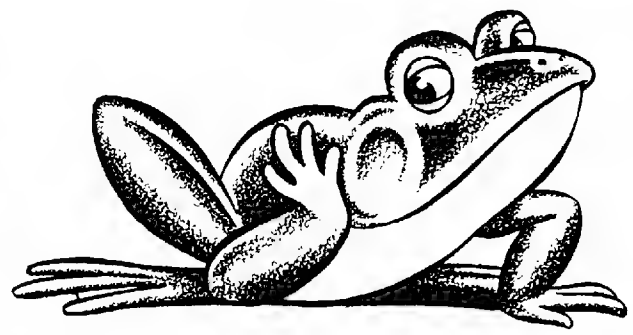
Phil Peak demonstrating the safe way to photograph a venomous snake. His stick is within reach and he has a companion with him. The duo says that it's not a good idea to herp alone, especially when dealing with venomous snakes.

After years of searching, the duo finally found a pine snake (*Pituophis melanoleucus*), a rare find in Kentucky.

snake while still getting outstanding shots. While the timber rattler (*Crotalus horridus*) is one of their favorite snakes to find and photograph, neither of them want to lose herping time for a trip to the hospital because of envenomation. Now would be a good time to mention that they emphasized the importance of herping with friends.

Their presentation continued with gorgeous photographs of most of the snakes of Kentucky, along with tips on finding the individual species. Will and Phil have yet to find four of Kentucky's snake species in the field, but the thoughtful and directed methods they use to field herp almost certainly assure that they will have success in finding all of them. Their successes include length records for state and species, range extensions, and finding species such as the pine snake (*Pituophis melanoleucus*) that were thought to be all but extirpated from the state. They have high goals and expectations for themselves, following rigid methods of research, recording, and sharing of their data. Their philosophies of dealing with landowners, dedication to proper techniques, cooperation with government agencies, continuing attempts to educate the general public, maintenance of the Kentucky Herpetological Society, and commitment to field herping probably cannot be matched by most of us. These two individuals are self-described blue-collar guys, not involved with what is normally thought of as scientific or governmental circles, and yet they are doing meaningful and important research as just two people who happen to like snakes. Most of us will probably not be able to dedicate the time or make the commitment to equal their successes, but all of us could do a lot worse than try. Heck, their philosophies apply not only to field herping, but also are not bad to be following in life. I would like to hear more about the non-snake herping that they do. From what I've seen, they're probably already working on that presentation. I hope I can be there when they hit the stage with that one.

The Tympanum



Please express my gratitude to the members of the Chicago Herpetological Society for the very generous donation of $2,000.00 that will be used for land acquisition in the Kankakee Sands ecoregion in Iroquois County, Illinois.

Currently, we have two purchases in progress. We have agreed on a price for 24 lots in Willow Estates offered to us by a realtor in Watseka, Illinois, and we plan to close toward the end of November, 2008. Additionally, we have made an offer to an owner for three large lots totaling 7.6 acres. This offer is contingent on our ability to raise the necessary funds, and, if accepted, we hope to close early in 2009. Your funds are helping us in this effort.

Assuming we are successful in obtaining the three lots, Friends of the Kankakee will then own a total of 231 lots in Willow Estates totaling 99.8 acres. In addition to the Willow Estates lots, we own contiguous 22-acre and 44-acre parcels; many of the Willow Estates lots share a boundary with the large parcels. There are about 400 vacant parcels remaining in Willow Estates. We certainly have our work cut out for us and would welcome your continuing support in helping us preserve this important area. . . . Cordially,

Marianne Hahn, President, Friends of the Kankakee,
P.O. Box 1100, Cedar Lake IN 46303.

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Herpetology 2008

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

AGROCHEMICALS AND TREMATODE INFECTIONS

J. R. Rohr et al. [2008, Nature 455:1235-1239] note that global amphibian declines have often been attributed to disease, but ignorance of the relative importance and mode of action of potential drivers of infection has made it difficult to develop effective remediation. Based on a field study, the authors show that the widely used herbicide, atrazine, was the best predictor (out of more than 240 plausible candidates) of the abundance of larval trematodes (parasitic flatworms) in the declining northern leopard frog *Rana pipiens*. The effects of atrazine were consistent across trematode taxa. The combination of atrazine and phosphate—principal agrochemicals in global corn and sorghum production—accounted for 74% of the variation in the abundance of these often debilitating larval trematodes (atrazine alone accounted for 51%). Analysis of field data supported a causal mechanism whereby both agrochemicals increase exposure and susceptibility to larval trematodes by augmenting snail intermediate hosts and suppressing amphibian immunity. A mesocosm experiment demonstrated that, relative to control tanks, atrazine tanks had immunosuppressed tadpoles, had significantly more attached algae and snails, and had tadpoles with elevated trematode loads, further supporting a causal relationship between atrazine and elevated trematode infections in amphibians. These results raise concerns about the role of atrazine and phosphate in amphibian declines, and illustrate the value of quantifying the relative importance of several possible drivers of disease risk while determining the mechanisms by which they facilitate disease emergence.

SEYCHELLES FRESHWATER TURTLES

J. Gerlach [2008, Chelonian Conservation and Biology 7(1): 78-87] reports that in the Seychelles islands, all 3 endemic freshwater turtle taxa are either extinct (*Pelusios seychellensis*) or critically endangered (*Pelusios castanoides intergularis* and *Pelusios subniger parietalis*). These turtles are threatened by habitat loss, and monitoring of populations since 1996 has identified significant ongoing population declines. Drainage of wetland sites has reduced the number of populations, but even surviving sites are mostly reduced in area and quality. Only 5 *Pelusios subniger parietalis* and 3 *Pelusios castanoides intergularis* populations showed evidence of reproduction within the last 10 years. Longevity records suggest that *Pelusios* species may live for at least 40 years, and captive breeding data indicate that sexual maturity may be comparatively early in these taxa (ca. 2 years). Populations can persist for decades after reproduction has ceased, resulting in effective population extinction, even when environmental conditions stabilized. This is a characteristic that is shared with other long-lived species, and demography should be an essential component of recovery plans for any such species. Conversely. improvement in habitat may allow rapid population recovery, as has been demonstrated in *Pelusios subniger parietalis* on Fregate Island.

EMERGENCE OF SEA TURTLE HATCHLINGS

A. U. Koch et al. [2008, J. Herpetology 42(1):1-8] note that the timing and synchrony of sea turtle emergences from the nests are primary factors in determining hatchling vigor and likelihood of survival. A clear benefit of synchronous emergence is a reduction in energy expenditure through social facilitation, but disadvantages also result from reduction in energy stores if hatchlings have to wait any appreciable time in the nest. The authors investigated hatchling emergence times throughout emergence of the entire clutch for 21 clutches of flatback sea turtles, *Natator depressus*, incubating in a beach hatchery at three clutch sizes and three nest depths. Emergence of the entire clutch spanned an average of 3.1 days, with shallower nests exhibiting greater emergence asynchrony ($mean_{20cm}$ = 4.0 days, $mean_{35cm}$ = 4.5 days) than deeper nests ($mean_{50cm}$ = 1.7 days). Hatchlings emerged through the night, peaking between 2100 and 2200 h, with hatchlings from shallower nests emerging earlier in the night. For natural nests, hatchlings generally emerged within a single night, evident from the low number of hatchlings remaining in the nest the day after emergence. The disparate observations between a beach hatchery, and natural nests provide important conservation implications for hatchery management.

STRESS IN MOLE SALAMANDERS

A. K. Davis and J. C. Maerz [2008, Copeia 2008(3):613-617] note that measuring stress in animals is an important component of many research studies, and it has traditionally been performed via sampling levels of corticosterone in plasma. A secondary, "hematological" approach used most commonly by researchers of birds, mammals, and other taxa involves evaluating leukocyte profiles from blood smears. Such research has shown that leukocytes have a characteristic response to stress, although in amphibians this phenomenon is not as well studied. In general, stress can induce a rise in the ratio of neutrophils to lymphocytes. The authors evaluated the hematological response of paedomorphic mole salamanders (*Ambystoma talpoideum*) to captivity stress, specifically focusing on this parameter, but also examining other white blood cell types. Individuals captured in the wild and held in captivity for ten days before sampling had significantly more neutrophils, fewer lymphocytes, and higher ratios of neutrophils to lymphocytes than those captured from the same locations and sampled within one hour. Captive individuals also had significantly higher numbers of eosinophils. These results are consistent with hematological research in birds and other taxa and highlight the utility of this approach for measuring stress in amphibians.

Unofficial Minutes of the CHS Board Meeting, October 17, 2008

The meeting was called to order at 7:40 P.M. at the Schaumburg Public Library. All board members were present.

Officers' Reports

Recording Secretary: Cindy Rampacek read the minutes of the September 12 board meeting. Minor corrections were made and the minutes were accepted.

Treasurer: Andy Malawy presented the September financial reports and no questions were raised.

Vice-president: The December general meeting will be a post-Christmas party on Tuesday, December 30.

Corresponding Secretary: Deb Krohn reported that the Plum Grove Nature Center is looking to set a date for next year's Salamander Safari.

Sergeant-at-arms: The attendance at the September general meeting was 36.

Committee Reports

Shows:
• Great Lakes Pet Expo, Saturday, January 31.
• Reptile Rampage, March 8.
• Chicagoland Family Pet Expo, Arlington Racetrack, March 20–22.
• Notebaert Nature Museum, first weekend of each month.

Library - Steve recently bought two new books—*A Snake Hunting Guide: Methods, Tools and Techniques for Finding Snakes* by Will Bird and Phil Peak; and *The Lizard King; The True Crimes and Passions of the World's Greatest Reptile Smugglers* by Bryan Christy.

Adoptions: A veiled chameleon that came in is being treated by Steve Barten.

Old Business

Symposium 2009: The contract with Giorgio's Comfort Inn has been signed and we have fliers printed. The website will be updated. Eric Thiss will try to have someone vending at the Midwest as well as NARBC. We expect to have a discount for symposium registrants at NARBC on Sunday; the exact amount is to be determined. There will be no live animal display due to hotel rules at Giorgio's.

Rules for Live Animal Exhibitors: Dan Bavirsha handed out a final version of the proposed rules and we will be voting on the proposal at the November board meeting.

Nominating Committee slate: President—John Archer; Vice-president—Jason Hood; Recording Secretary—Cindy Rampacek; Treasurer—Andy Malawy; Publications Secretary—Aaron LaForge; Membership Secretary—Mike Dloogatch; Corresponding Secretary—Deb Krohn; Sergeant-at-arms—Dan Bavirsha; Members-at-large: Rick Hoppenrath; Linda Malawy; Brad Trost; Jenny Vollman. We will need to send out absentee ballots in aeparate first-class mailing so that the names of any nominees from the floor at the October general meeting can appear on the ballot.

New Business

Mike Redmer gave a presentation on a Kankakee conservation project and requested that the CHS partner with Friends of Kankakee. Dan Bavirsha make a motion to give Friends of the Kankakee $2000.00 toward the purchase of land parcels in the Willow Estates area in Iroquois County. Linda Malawy seconded the motion. The motion passed unanimously.

Note cards will be purchased through Café Press as they offer the best price at this time. Cindy Rampacek will order the cards for Deb.

John Murphy has just about finished a book called the "Field Guide to Reptiles Kept in Captivity". It gives range maps and general info on most commonly kept species. He is in need of a publisher/distributor. It would be in color. The board requested a presentation for more info.

Mike Dloogatch wanted to know if there were any changes for the membership handout before he makes a new batch.

Jason Hood wanted to confirm that the @chicagoherp.org email addresses are working for everyone.

Jason Hood is going to get classifieds going on our website. He is looking for suggestions on rules. He will have things ready by November Board meeting.

Mike Dloogatch praised Amy Sullivan for redoing the grant rules this year. It makes things a lot clearer for everyone.

Andy Malawy moved to reimburse Bob Bavirsha $20 per month for the storage of CHS items in one annual payment in advance of the calendar year. Cindy Rampacek seconded and the motion passed unanimously.

Bob Bavirsha inquired about glitches on the ReptileFest website. Aaron LaForge will be working on it shortly to figure out the issues.

Round Table

Deb Krohn enjoyed giving a talk to Chicago Audubon Society on "For the Love of the Slimy and Scaled: How a Seemingly Normal Gal Found Herself Surrounded by 20 or So Herps."

Linda Malawy talked to Karen Lucy of the St. Louis Herpetological Society at NARBC. Karen would like to come to Reptile Fest to show teachers how to use herps in the classroom. And also perhaps Mike Redmer could ask Friends of Kankakee to be at 'Fest as well.

Jason Hood would like speaker ideas.

Nancy Kloskowski asked about progress on the shirts for doing CHS events.

The meeting adjourned at 9:32 P.M.

Respectfully submitted by recording secretary Cindy Rampacek

Advertisements

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (352) 495-9024, E-mail: GrmtRodent@aol.com.

For sale: from **The Mouse Factory**, producing superior quality, frozen feeder mice and rats. We feed our colony a nutrtionally balanced diet of rodent chow, formulated especially for us, and four types of natural whole grains and seeds. Mice starting from: pinks, $.17 each; fuzzies, $.24 each; hoppers, $.30 each; weanling, $.42; adult, $.48. Rats: starting with pinks at $.45 each, to XL at $1.80 each. Discount prices available. We accept Visa, MC, Discover or money orders. PO Box 85, Alpine TX 79831. Call **toll-free** at (800) 720-0076 or visit our website: <http://www.themousefactory.com>.

For sale: **high quality frozen feeders**. Over a decade of production and supply. Seven sizes of mice availabe: small newborn pinks up to jumbo adults. Prices start at $25 per 100. Feeders are separate in the resealable bag, not frozen together. Low shipping rates. Free price list. Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358 evenings and weekends.

For sale: Graptemys.com T-shirts, 100% cotton, pre-shrunk, pigment-dyed shirts with the Graptemys.com embroidered logo. These are very high quality shirts with that stylish faded look. Sizes S-M-L-XL-XXL. Colors: Pacific blue, nautical red, brick red, plum, granite, khaki green and putty. All profits made from these shirts goes directly to in situ *Graptemys* research. $20 each with $3.00 shipping. Email: chris@graptemys.com or call (239) 437-4148 to order. You can look at the shirts at http://www.graptemys.com/shirts.htm

For sale: books. *Reptiles of the Kalgoorlie-Esperance Region* by Brian Bush, 1981, 44 pp., 52 color photos, descriptions and habits of reptiles of this area in Western Australia, published privately by author, booklet size, softbound, $35; *The Reptiles* by Archie Carr, 1963 (reprinted 1971), 192 pp., many color and b&w photos, figs., part of the Life Nature Library series, a most interesting book by this noted herpetologist and writer, hardbound, $9; *The Snakes of Victoria* by A. John Coventry and Peter Robertson, 1991, 70 pp., many color photos, range maps, 6 figs., descriptions and natural history info, published by Museum of Victoria (Australia), softbound, $35; *Animals of East Africa* by C. T. Astley Maberly, 1972 (1971), 221 pp., many drawings, habits and distribution, softbound, $6; *A Wildlife Guide and A Natural History of Amboseli* by David Western 1983, 75 pp., b&w drawings, mammal habits, habitats, park history, Maasai, author is noted Kenyan conservationist, softbound, $12. All books in excellent condition, subject to prior sale. $3 postage and handling for orders $25 and under, free for orders over $25. E-mail for complete list. Books make good Christmas presents. William R. Turner, 7395 S. Downing Circle W., Centennial, CO 80122; telephone (303) 795-5128; e-mail: toursbyturner@aol.com

For sale: Well started 2008 C.H. Sri Lankan stars, leopard tortoises and pancake tortoises. All captive-hatched by us and eating great. Stars are $450 each, with temperature-sexed pairs from unrelated females available. Leopards are $125 each and pancakes are $350. Contact Jim or Kirsten Kranz at 262-654-6303 or e-mail KKranz1@wi.rr.com.

For sale: Trophy quality jungle carpet, diamond-jungle, and jaguar carpet pythons. Website: moreliapython.googlepages.com E-mail: junglejohn@tds.net

For sale: Well started spider morph ball pythons (*Python regius*) available for free delivery in the Chicagoland area—males, $350. Also available are high-contrast, Sarawak locality and Walnut × Sarawak pairing Borneo pythons (*Python breitensteini*). Pricing is based on male sex with $50 more for females, if available: 2007 high-contrast, $150; 2007 Sarawak, $175; 2006 Sarawak,$200, 2007 Walnut × Sarawak (melanistic Borneos), $125. All feeding on frozen thawed adult mice and/or rats. Shipping available as an additional cost, if needed. Details and helpful info on my website at www.richcrowleyreptiles.com Contact Rich Crowley at 708-646-4058 or email pogona31@yahoo.com.

Herp tours: **Madagascar—Tortoise Tour** & **Chameleon Tour** seeking adventurous members for January–February 2009. The goal of the tortoise tour, to be co-led by **Peter Pritchard** of the Chelonian Research Institute and **Bill Love**, will be to see all native species in the wild and record various aspects of their lives photographically. The later chameleon tour, co-led by **Mike Monge** of FL Chams and **Bill Love**, will focus on panther chameleons, trying to find and photograph as many of the color morphs as possible in the wild. Details are at Blue Chameleon Ventures' site at: www.bluechameleon.org.

Herp tours: The beautiful Amazon! Costa Rica from the Atlantic to the Pacific! Esquinas Rainforest Lodge, the Osa Peninsula, Santa Rosa National Park, and a host of other great places to find herps and relax. Remember, you get what you pay for, so go with the best! GreenTracks, Inc. offers the finest from wildlife tours to adventure travel, led by internationally acclaimed herpers and naturalists. Visit our website <http://www.greentracks.com> or call (800) 892-1035, E-mail: info@greentracks.com

Snake sitting or boarding: Mild-mannered adult female reticulated python, 18 feet, needs you from May to fall 2009. We are searching a responsible person either to housesit with her in northern Michigan or care for her at your home (non-Illinois only). Must be willing to feed her rabbits and shed her. Attractive, flexible terms. For more details, contact Kathy Bricker, 231-627-4830 or kathyhomeaccount@hotmail.com

Line ads in this publication are run free for CHS members—$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (773) 588-0728 evening telephone, (312) 782-2868 fax, E-mail: MADadder0@aol.com

ReptileFest 2009
April 4–5

COME! HAVE FUN! HELP YOUR SOCIETY! IT'S A WIN-WIN!

Ya gonna miss that?

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, November 26, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. This meeting will include the annual election of officers and members-at-large of the CHS Board of Directors. Also at this meeting **Mike Redmer** will speak about current and looming issues in Illinois herp conservation.

The December meeting will take place on ***Tuesday*, December 30. This meeting will be a holiday party**. The CHS will provide soft drinks and snacks. If you would like to bring something edible to share with the group, you are invited to do so. If you would like to bring an animal to show off to the group, you are encouraged to do that as well. This will be a chance to socialize all evening and get to know your fellow members a little better.

The regular monthly meetings of the Chicago Herpetological Society take place at Chicago's newest museum — the **Peggy Notebaert Nature Museum**. This beautiful new building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the next board meeting, to be held at 7:30 P.M., December 19, in the adult meeting room on the second floor of the Schaumburg Township District Library, 130 S. Roselle Road, Schaumburg.

The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info visit the CTC website: http://www.geocities.com/~chicagoturtle.

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